

# DEVELOPMENT OF AN OBJECTIVE FEEDBACK SCORE FOR THE EVALUATION OF DRUG AND MEDICAL DEVICE MANUFACTURERS/DISTRIBUTORS AS AN ADDITIONAL PARAMETER TO BE CONSIDERED IN PUBLIC PROCUREMENT (TENDERING)

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## INTRODUCTION

Drugs and medical devices are part of the link between patients and health services, thus drugs need to be managed properly and should be available and accessible at all times; indeed poor management of health resources would contribute, firstly, to a negative impact on health, secondly, could reduce access, cause drug shortage and waste money. The current system of public procurement (tendering) is a popular method in European countries to contain pharmaceutical expenditures, but the lower price/best offer was the only criteria to grant the tender in Italy. Italian's and other European countries' systems do not consider the experiences public institutions registered on the products' and services' quality and adherence of manufacturers/distributors in delivering their products according to the undersigned contracts. Penalties paid by manufacturers/distributors for delay and other problems related to the order are not a sufficient stimulus for improving performances.

## OBJECTIVE

The pursue of this analysis is to assess and improve the quality of the manufacturers' delivery service and the quality of the supply chain developing an objective Manufacturer/Distributor feedback score to be considered in public procurement.

## METHOD

Based on 14,145 orders of drugs (157 companies), 18,883 medical devices (196 companies) and 2,516 refrigerated drugs (63 companies) registered from January to December 2014 by ESTAV (the drug Regional public authority with a centralized drug and medical device warehouse supports 18 hospitals and 6 local Health Units) all the existing distributors have been analyzed and a first feedback score has been assigned to them.

The only objective available data hold by ESTAV and manufacturers during 2014 were the deliveries' time (from order to delivery).

The company's score corresponds with its median delivery's time. The higher the score, the less reliable the company is.

According to the undersigned contract, suppliers should deliver the goods within 5 days for drugs and 7 days for medical devices.

An identification number has been assigned for each manufacturer.

R software has been used for the analysis.

## RESULTS

With a focus on 2014 drugs, medical devices and refrigerated drugs manufactures have been evaluated using the following parameters:

- § Delivery score (time from order to delivery);
- § Service delivery score (time from order to bill issuance);
- § Shipping score (time from the bill issuance to delivery).

General Companies performances (DAYS)

	Drugs	Medical devices	Refrigerated drugs
<b>Delivery score</b>	6	7	5
<b>Service delivery score</b>	2	3	2
<b>Shipping score</b>	3	3	2

Distributors' performances varied according to the type of pharmaceuticals; a score for each distributor has been determined and the results showed that:

I.73% of drugs companies displayed a score higher than 5.

II.41% of refrigerated drugs companies revealed a score higher than 5.

III.56% of medical devices companies showed a score higher than 7.

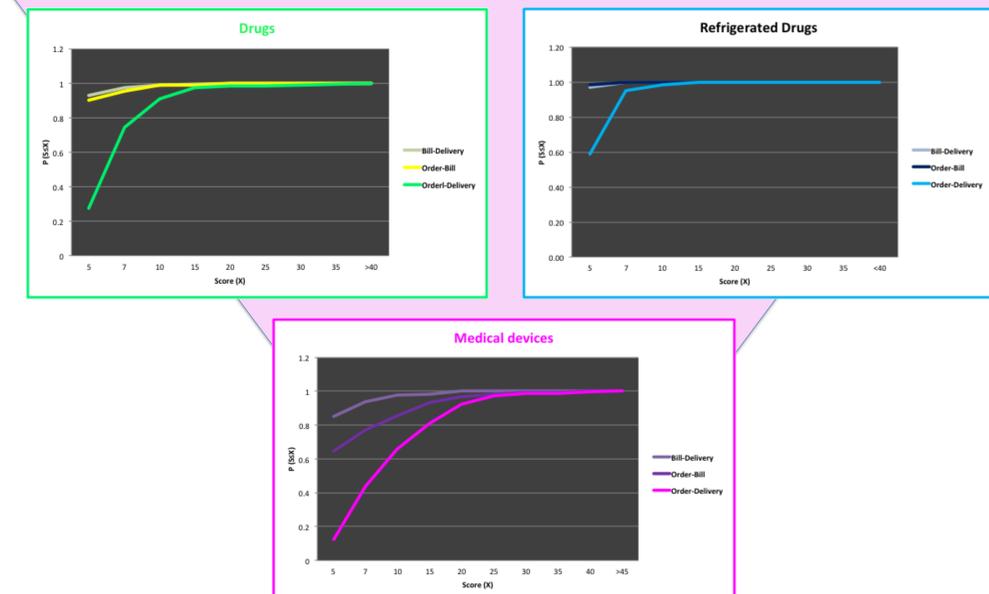


Figure 1. Cumulative distribution function of scores of service providers

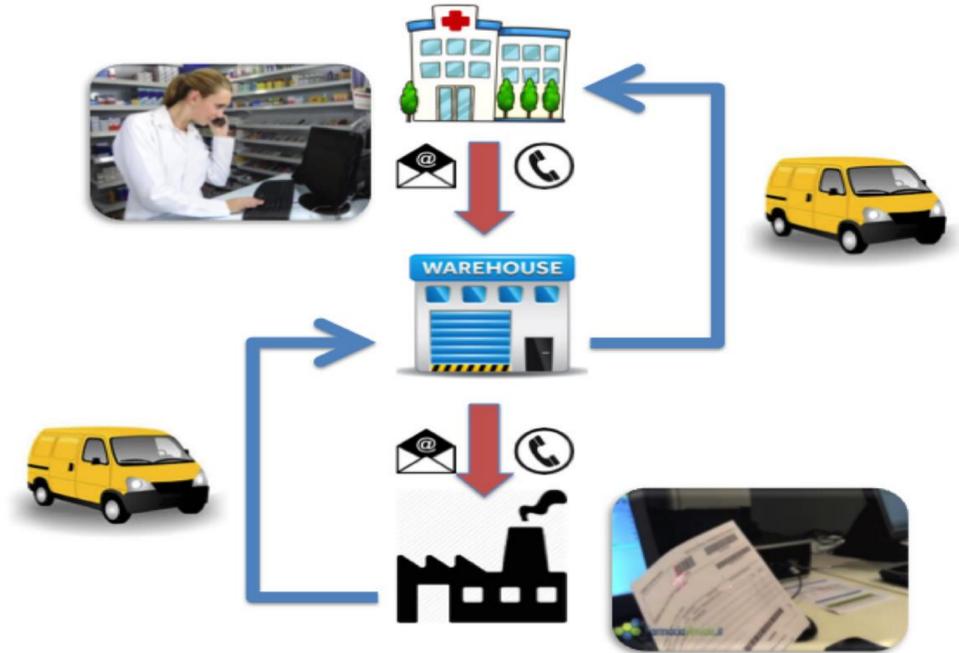


Figure 2. Pharmaceutical Supply chain.

Furthermore, the relation between pharmaceuticals' ATC or CND code (drugs or medical devices, respectively) and the companies' score (delivery time) has been investigated. Thus, a score for each ATC and CND code has been assigned. The higher the score, the less efficient and reliable the distributors delivery performances for the code are.

**Drugs:** Alimentary tract and metabolism (code A) and Dermatological drugs (D classes) showed a higher score than others.

**Refrigerated drugs:** The distributors of Alimentary tract and metabolism (A), Cardiovascular system(C), Nervous system (N) drugs showed a worst performance in delivery than others.

**Medical Devices:** The companies of Various medical devices (V), Diagnostic medical devices in vitro (W) displayed a very high score.

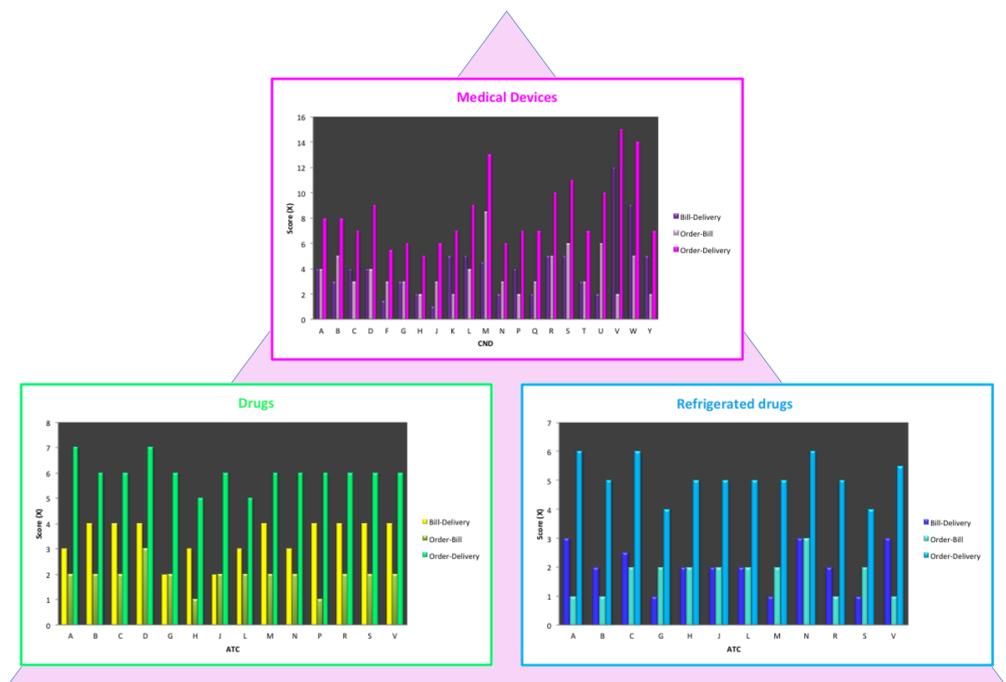


Figure 3. Relation between score and ATC or CND code

## CONCLUSIONS

Refrigerated drugs distributors have a better delivery performances than medical devices and drugs ones. The slower manufactures are the medical devices ones.

The developed score is able to: a) better signal distributors' reputation giving additional information to the commission in public auctions (tendering); b) give additional information for planning a more efficient system of orders planning and drugs storage; c) give a simple, but powerful instrument to the manufacturers to evaluate their performance, far from the risk of biases originated by a self-evaluation. Further criteria as availability, safety and guarantee of the required pharmaceuticals will be considered to develop a more complete objective score and more efficient tendering process. Further analysis are in progress.

This tool could be useful in the application of the assessment criteria introduced by EU Directive 24/2014.

## REFERENCES

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